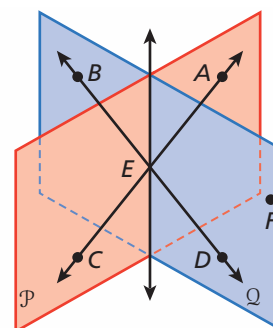


Geometry 3.1 Study Guide: Lines and Angles (pp 146-148)

Attendance Problems

Term	Definition
1. ____ Acute angles	A. Segments that have the same length. B. An angle that measures greater than 90° and less than 180° . C. Points that lie in the same plane. D. Angles that have the same measure . E. Points that lie on the same line. F. An angle that measures greater than 0° and less than 90° .
2. ____ Congruent Angles	
3. ____ Obtuse Angles	
4. ____ Collinear	
5. ____ Congruent Segments	

6. **Identify the hypothesis and conclusion of the conditional:** If plane P and plane Q intersect, then they intersect in a line.



7. **Name and classify the the angle.**

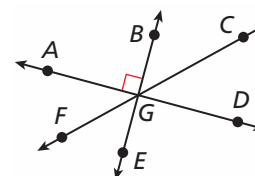


Give an example of each angle pair.

7. Vertical angles

8. Complementary angles

9. Supplementary angles



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10. **Evaluate** $5x + 3x + 12$ for $x = 17$.

11. **Solve:** $21x + 13 + 14x - 8 = 180$

- I can identify parallel, perpendicular, and skew lines.
- I can identify the angles formed by two lines and a transversal.

Common Core: CC.9-12.G.CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the un-defined notions of point, line, distance along a line, and distance around a circular arc.

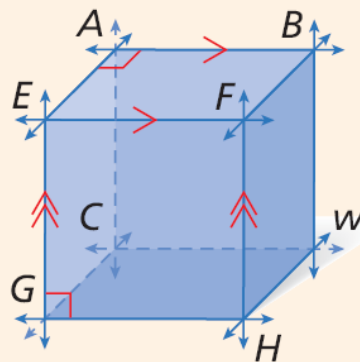
Parallel, Perpendicular, and Skew Lines

Parallel lines (\parallel) are coplanar and do not intersect. In the figure, $\overleftrightarrow{AB} \parallel \overleftrightarrow{EF}$, and $\overleftrightarrow{EG} \parallel \overleftrightarrow{FH}$.

Perpendicular lines (\perp) intersect at 90° angles. In the figure, $\overleftrightarrow{AB} \perp \overleftrightarrow{AE}$, and $\overleftrightarrow{EG} \perp \overleftrightarrow{GH}$.

Skew lines are not coplanar. Skew lines are not parallel and do not intersect. In the figure, \overleftrightarrow{AB} and \overleftrightarrow{EG} are skew.

Parallel planes are planes that do not intersect. In the figure, plane $ABE \parallel$ plane CDG .



Arrows are used to show that $\overleftrightarrow{AB} \parallel \overleftrightarrow{EF}$ and $\overleftrightarrow{EG} \parallel \overleftrightarrow{FH}$.

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Helpful Hint

Segments or rays are parallel, perpendicular, or skew if the lines that contain them are parallel, perpendicular, or skew.

Refer to example 1 on page 146.

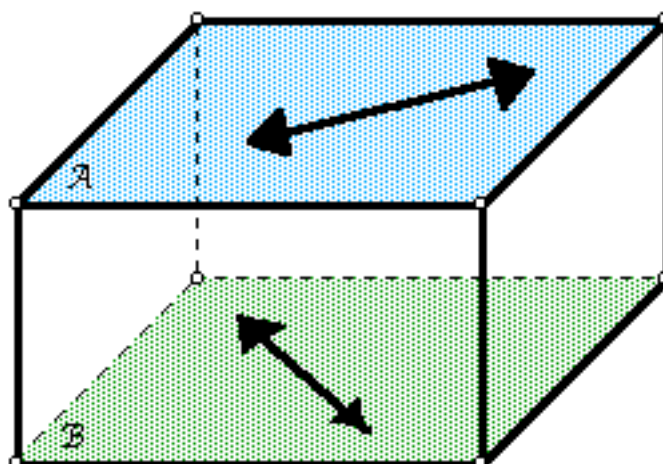
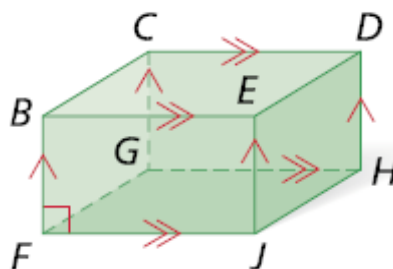
Guided Practice: Identify each of the following.

12. A pair of parallel segments

13. A pair of skew segments

14. A pair of perpendicular segments.

15. A pair of parallel planes



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Angle Pairs Formed by a Transversal

TERM	EXAMPLE
A transversal is a line that intersects two coplanar lines at two different points. The transversal t and the other two lines r and s form eight angles.	
Corresponding angles lie on the same side of the transversal t , on the same sides of lines r and s .	$\angle 1$ and $\angle 5$
Alternate interior angles are nonadjacent angles that lie on opposite sides of the transversal t , between lines r and s .	$\angle 3$ and $\angle 6$
Alternate exterior angles lie on opposite sides of the transversal t , outside lines r and s .	$\angle 1$ and $\angle 8$
Same-side interior angles or <i>consecutive interior angles</i> lie on the same side of the transversal t , between lines r and s .	$\angle 3$ and $\angle 5$

Refer to example 2 on page 147.

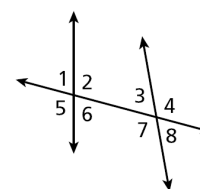
Guided Practice. Give an example of each angle pair.

16. Corresponding angles

17. Alternate interior angles

18. Alternate exterior angles

19. same-side interior angles



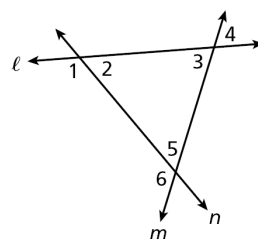
Geometry 3.1 Study Guide: Lines and Angles (pp 146-148)

Helpful Hint

To determine which line is the transversal for a given angle pair, locate the line that connects the vertices.

Refer to example 3 on page 147.

20. Guided Practice: Identify the transversal and classify the angle pair $\angle 2$ and $\angle 5$ in the diagram.



3.1 Assignment (pp 149-150) 14, 18, 22, 28, 33, 40.

